

## **Abstract**

**Purpose:** The increased incidence of olfaction disorder in COVID-19 patients has recently gained recognition. It is unknown if topical corticosteroids play a preventative role in loss of smell. The purpose of this study is to determine if an intranasal corticosteroid spray is protective against sudden onset anosmia or hyposmia in COVID-19 patients.

**Methods:** A retrospective cohort analysis was performed of 500 patients (18 years or older) with a diagnosis of COVID-19 and Anosmia or Hyposmia. Patients were identified utilizing the OhioHealth Electronic Medical Record database. Of the 500 patients, 63 were excluded for either a missing lab result confirming the COVID-19 diagnosis, diagnosis of anosmia or hyposmia with time of onset not correlating with COVID-19 diagnosis (>1 week prior to or onset any time after positive COVID-19 test), currently on systemic steroids, former history of olfaction disorder, neurodegenerative disorders, head and neck radiation, facial trauma, or traumatic brain injury. Patients were also excluded who had a history of previous rhinologic surgery or neurosurgery.

**Results:** Of the 437 patients who had a positive COVID-19 diagnosis and experienced anosmia or hyposmia as a symptom, 18 (4.1%) had an active prescription for a nasal corticosteroid. 100% of them only experienced mild COVID-19 symptoms.

**Conclusion:** The data does not support that intranasal steroids prevented the loss of smell as a symptom of COVID-19. However, it does show that all who were on a topical steroid spray suffered only mild symptoms. Therefore, it can be concluded that nasal steroid sprays taken prior to and at the time of COVID-19 diagnosis may reduce the overall symptom severity.

**Level of Evidence:** III, Therapeutic

**Keywords:** anosmia, hyposmia, olfaction disorder, Covid-19, intranasal steroids, topical steroids